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EVALUATION OF PLAQUE TEXTURE BY 256-SLICE SPIRAL CT IN PATIENTS WITH ACUTE CORONARY SYNDROME

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Objective To evaluate the primary clinical value of 256-slice spiral CT (MSCT) in detecting the plaque texture in the patients with acute coronary syndrome (ACS).

Methods Eighty five patients, 49 ACS, 36 non-ACS with angiographically documented coronary artery disease underwent 256-slice spiral CT. The texture of plaques in main coronary artery was evaluated and its CT density was expressed as Hounsfield unit (HU).

Results The number of plaques did not differ between two groups, however, in the culprit lesion of ACS group, the minimum CT density (24 ± 15) HU was lower than that of non-ACS group (86 ± 14) HU ($p < 0.01$). Similarly, in 29 ACS patients with multiple plaques, the minimum plaque density (20 ± 18) HU was lower in the culprit coronary segment than in the non-culprit segment (45 ± 15) HU ($p < 0.01$). CT density of type II plaques (26 ± 14) HU was lower than type I plaques (47 ± 16) HU in ACS group ($p < 0.01$), and likewise in non-ACS group, CT density of type II plaques (74 ± 10) HU was lower than type I plaques (91 ± 14) HU ($p < 0.01$). CT density of plaques of ACS group was lower than non-ACS group in both type I lesion and type II lesion.

Conclusions 256-slice spiral CT can sufficiently detect vulnerable plaques from coronary plaques in patients with coronary

artery disease, but its clinical use may presently be limited due to image quality and evaluation means to a certain extent.